Electronic Version
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Claims

[c1] 1.A structure of color filter, comprising:
a substrate;
a black matrix (BM), disposed over the substrate, wherein the BM includes grid regions exposing the substrate; and
a plurality of color film layers, disposed within the grid regions, wherein a width a of an overlapping region between the color film layers and the BM is 0 6.0 microns, and a thickness b of the color film layers at the overlapping region is 0 1.0 microns.

[c2] 2. The structure of claim 1, wherein a thickness of the color film layers is c, and a thickness of the BM is d, wherein c is greater than or equal to d.

[c3] 3. The structure of claim 1, wherein the substrate is a transparent substrate.

[c4] 4. The structure of claim 1, wherein the BM includes light shielding resin.

[c5] 5. The structure of claim 1, wherein the BM includes Cr metal.

[c6] 6. The structure of claim 1, wherein color film layers comprises red film layers, green film layers, and blue film layers.

[c7] 7. The structure of claim 6, wherein the red film layers, the green film layers, and the blue film layers are arranged into a type selected from the group consisting of mosaic type, stripe type, four pixel type, and triangle type.

[c8] 8. The structure of claim 1, further comprising a common electrode, directly disposed on the BM and the color film layers.

[c9] 9. The structure of claim 1, wherein the common electrode includes indium tin oxide or indium zinc oxide.

[c10] 10. A method for fabricating a color filter, comprising:
providing a substrate;
forming a black matrix (BM) and color film layers over the substrate, wherein a width a of an overlapping region between the color film layers and the BM, and a thickness b of the color film layers at the overlapping region are controlled to have a = 0 - 6.0 microns, and b=0 - 1.0 microns; and
forming a common electrode directly over the BM and the color film layers.

[c11] 11. A method for fabricating a color filter, comprising:

providing a substrate;

forming a black matrix (BM) and color film layers over the substrate, wherein a width a of an overlapping region between the color film layers and the BM, a thickness b of the color film layers at the overlapping region, a thickness c of the color film layers, and a thickness d of the BM are controlled to have a = 0 – 6.0 microns and b=0 – 1.0 microns, $c \geq d$; and

forming a common electrode directly over the BM and the color film layers.